

Claims

1. A gas generator for an air bag comprising a housing having a gas discharge port, first and second ignition means activated by the impact, and first and second combustion chambers accommodating gas generating agents which are ignited and burnt to generate combustion gases, wherein

the first ignition means has a first igniter and a first transfer charge inside a first ignition means chamber, and the gas generating agent inside the first combustion chamber is ignited and burnt by ignition energy due to combustion of the first transfer charge inside the first ignition means chamber,

the second ignition means has a second igniter and a second transfer charge inside a second ignition means chamber, and the gas generating agent inside the second combustion chamber is ignited and burnt by ignition energy due to combustion of the second transfer charge inside the second ignition means chamber,

the first and second igniters are arranged in parallel in the radial direction of the housing, and the first and second combustion chambers are arranged concentrically inside the housing, and

advancing directions of flames produced when the first and second igniters are activated are not exactly opposite to communication holes for guiding ignition energies produced from the first and second ignition means chambers to the first and second combustion chambers.

2. A gas generator for an air bag comprising a housing having a gas discharge port, first and second ignition means activated by the impact, and first and second combustion chambers accommodating gas generating agents which are ignited and burnt to generate combustion gases are accommodated, wherein

the first ignition means has a first igniter and a first transfer charge inside a first ignition means chamber, and the gas generating agent inside the first combustion chamber is ignited and burnt by ignition energy due to combustion of the first transfer charge inside the first ignition means chamber,

the second ignition means has a second igniter and a second transfer charge inside a second ignition means chamber, and the gas generating agent inside the second combustion chamber is ignited and burnt by ignition energy due to combustion of the second transfer charge inside the second ignition means chamber,

the first and second igniters are arranged in parallel in the radial direction of the housing, the first and second transfer charges are arranged vertically in the axial direction of the housing, and the first and second combustion chambers are arranged concentrically inside the housing, and

advancing directions of flames produced when the first and second igniters are activated are not exactly opposite to communication holes for guiding ignition energies produced from the first and second ignition means chambers to the first and second combustion chambers.

3. A gas generator for an air bag according to claim 1 or 2, wherein, after the ignition energy generated from the first ignition means chamber is discharged in the radial direction of the housing, the energy advances in the axial direction of the housing, and the ignition energy generated from the second ignition means chamber is discharged in the axial direction of the housing.

4. A gas generator for an air bag according to claim 1 or 2, wherein an inner cylinder is disposed inside the housing, an annular first combustion chamber is provided outside the inner cylinder, the two ignition means are provided at a lower side of the inner cylinder, the second combustion chamber is further provided at an upper side of the inner cylinder.

5. A gas generator for an air bag according to claim 1 or 2, wherein the first combustion chamber and the first ignition means chamber are communicated to each other via a communication hole provided at a lower portion of the inner cylinder, and the first combustion chamber and the second combustion chamber are communicated to each other via a communication hole provided at an upper portion of the inner cylinder.

6. A gas generator for an air bag according to claim 1 or 2, wherein a retainer for restricting a flow direction of the combustion gas is disposed inside the second combustion chamber, and the retainer is disposed with a distance from an inner wall of second combustion chamber.

7. A gas generator for an air bag according to claim 6, wherein an opening portion for discharging a gas inside the

second combustion chamber is provided on a peripheral wall portion of the retainer, and the opening portion is closed before combustion of the gas generating agent inside the second combustion chamber.

8. A gas generator for an air bag according to claim 1 or 2, wherein a combustion temperature of the gas generating agent is in the range of 1000 to 1700°C.